PECULIARITIES OF IMMUNE STATUS AT ACUTE INTESTINAL INFECTIONS CAUSED BY PATHOGENIC ENTEROBACTERIA

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Most widely spread causative agents of acute intestinal infections accompanied by diarrhea are represented by Salmonella and enteropathogenic *Escherichia coli* (EPEC). Humoral immunity at salmonellosis and escheriochiosis has been studied well enough in comparison with the study of cellular chain of immunity. The aim of research was to investigate some chains of immunity and cytokine profile of the patients diagnosed with Salmonellosis and Escherichiosis caused by EPEC.

45 patients with acute intestinal infections had been examined; pure culture of *Salmonella enterica* was isolated in 29 of them; *Salmonella typhimurium* - in 11 patients; *Escherichia coli* – in 8 patients. Indices obtained after examination of 45 primary donors were estimated of control value. The following immunological indices were estimated: levels of IgA, IgM, IgG, circulative immune complexes (CIC), presence of basic lymphocytic subpopulations in peripheral blood and concentration of 1, 2, 4, 6, 10 interleukins (IL), y-interferon (IFN-γ).

Since the 5^{th}-6^{th} day of illness the patients' CIC had been increased, averaging 4,45±0,05 gr/l ($p<0,01$), that was more than 60% over the normal level. Within 15-20 days since the onset of the disease CIC had prevailed 30-40% control level. Alongside with CIC, content of IgG increased, too, averaging 14,9±1,65 gr/l, evidently prevailing the control level 11,3 ±0,21 gr/l. The high level of IgG had been kept during the whole period of investigation. As for the volume of IgA and IgM, it seemed to decrease – 1,65±0,04 gr/l, $p<0,05$ and 0,89±0,04 gr/l, $p\leq0,05$ verse 1,84±0,07 gr/l and 1,04±0,03 gr/l consequently. On the background of moderate leuco- and lymphocytosis secondary immunodeficiency of hyposuppressive type developed, that led to increased immunoregulatory index ($CD4^+/CD8^+$). The proportion of cells expressing activational markers considerably increased in the population of lymphocytes. The content of CD25 and CD38 increased approximately to 50%. Analysis of the patients' cytokine profile showed increased production of cytokines typical for Th1-clone of T-lymphocytes: IL2 and particularly IFN-γ. Concentration of lymphokines multiplied frequently soon after infection and was kept up to the high level within the period of research. It is known that IFN-γ plays an important role in resistance of the organism against intracellular pathogenic infections through microbicidal activity of macrophages. In its turn, high expression of IL2 correlated with the increase of cell number carrying receptor for the cytokine (CD25+ lymphocytes). Proinflammatory cytokines IL-1β and TNF-α accumulated actively in the blood serum. Their concentration had been increased since the onset of the disease and was kept at a high level for a long period of time. At acute intestinal infections caused by pathogenic enterobacteria, the other cytokines are released, too. One of them, IL4, is identified soon after the onset of the disease, but their content decreases further. As for IL10, it appears in the blood serum on the 6^{th}-10^{th} day of the disease and is preserved at a high level the research is completed. These regulatory molecules are components of cytokines produced by II class T-helpers (Th2).

The results of the research indicate undependable on humeral chain of immunity induction of effective Th1 response against enteropathogenic infections.